COST AND ITS SIGNIFICANCE

Not always is the supply of products a changeable supply. It occasionally happens that the volume of goods of a particular kind is entirely fixed and definite. Some things there are the supply of which is beyond the possibility of enlargement, like eighteenth century furniture, the old masters, grandfather's clocks, and the like. And some other things there are the supply of which changes, but not in response to human decision or effort—meteorological stones, for example. The first step in the analysis of market price assumes, therefore, a fixed supply. But cases of this sort are not common and present little difficulty in analysis. Monopolistic limitations of supply likewise are readily disposed of from the point of view of theory. It suffices at present to grasp the truth of Senior's statement: "Any other cause limiting supply is just as efficient a cause of value in an article as the necessity of labor in its production. And, in fact, if all the commodities used by man were supplied by nature without any interference whatever of human labor, but were supplied in precisely the same amounts that they now are, there is no reason to suppose either that they would cease to be valuable or would exchange at any other than the present proportions."[1]

Cost of production, that is to say, bears upon market price and fixes market price in the sense solely and in the degree that it serves to determine or modify the supply side of the value equation.

It is a commonplace that in our actual competitive form of society division of labor is possible only on terms of the possible exchange of products. But how does this division of labor establish itself? On what basis does each man select for himself a particular line of production? And how far does he carry production in this line? And why does he stop? Viewed in the large, cost of production is one aspect of the general division of labor. The manner of working out this selection by different men among different specialized lines of production and the computations involved in this process may well be different in differently organized societies.

The isolated individual economy, that of Crusoe, for example, an economy not unlike in principle that of a socialistic or collectivist society, furnishes its peculiar problem of production costs.

[1] Senior, *Political Economy* (6th ed., London), p. 24.

Fundamentally no product could rationally be produced by Crusoe, the utility of which did not overweigh, or at least balance, the discomfort of the work applied together with the displacement of such utilities of recreation as the situation offered. And, within the limits of this first principle, no product could be rationally produced, the production of which involved the displacement of a more desirable product. So far, then, as his work was rationally planned, Crusoe was continually turning his efforts to that undone thing the doing of which had come to be of leading importance—subject all the while, of course, to the condition that it was worth the labor penalties involved or the labor products displaced. At a certain point fishing was abandoned for game; more fish were refused in the interests of game. The game cost fish, or the fish cost game; since the work which would produce either fish or game was applied to game and withdrawn from fish. The limit upon production, the cost barrier, was reached at the first one of the two margins,—the margin of effort and of displaced recreation, or the margin of displacement of alternative product.

These displacements of possible products, these foregoings of alternative openings, these sacrifices of some second thing in the process of getting some particular thing, are perhaps best indicated under the term *opportunity cost*. To go without fish to get game or to raise wheat upon terms of foregoing the raising of corn may be taken as illustrative of one of the simplest aspects of the doctrine of opportunity cost. One of the difficulties in the case is, however, that the term *cost* is not quite satisfactory for all aspects of the doctrine.

Suppose, for example, that a child has been given both a pear and a peach; that some predatory boy tries to seize them; and that the only method of saving either is to drop one, say the pear, in the wayside weeds, and to run for shelter with the peach, while the aggressor is picking up the pear: What has the peach cost?

True the peach was a gift. In a certain sense, therefore, it cost nothing. Nevertheless it is retained only on terms of foregoing the pear. The term *cost* seems not quite satisfactory to cover the case. Perhaps *displacement* or *foregoing* would be preferable.

Or, if with a dollar which you have earned, you are at a choice between buying a book or a pocket knife and finally buy the book, the resistance overcome is best expressed, not by the labor devoted to the earning of the dollar, and not by the dollar itself, but by

the alternative application of the dollar. True it is, in one sense, that the book cost a dollar because that was the price of it; or you can reasonably say that it cost you a day's labor. But the ultimate significance of the labor or of the dollar is in the product which it can be made to achieve for you. The highest cost of the book, the best test or measure of its worth to you, is in the significance of its strongest competitor, the knife. And still, in this case as in the other, some term like displacement or foregone opportunity or sacrifice appeals as the more appropriate for expressing the ultimate fact.

Or, if one's work for a day will produce for him one bushel of wheat or two bushels of corn—these being the productive opportunities at the top of the list—and wheat is chosen, it is possible to say either that the wheat cost a day's labor or that it cost two bushels of corn. But inasmuch as the choice was really between wheat and corn, rather than between wheat and rest, or between wheat and recreation, the corn offers the leading resistance and is, therefore, the cost in the sense of displaced opportunity or foregone fact or sacrifice.

In truth, the notion of cost as employed in economic usage is made to do duty for all of these cases as well as to include such money outlays, or expenditures, as may also demand to be taken into account. Cost, that is to say, points in its ultimate significance to the thought of opposition, conflict, hindrance, *resistance*.

Collectivist Cost: Parallel to the Crusoe computation of cost is the socialistic or collectivist computation. An ideal adjustment would prescribe (1) that no product impose sacrifices in the burdens of labor and in the foregone recreation overbalancing the advantages derivative from the product; (2) that no product displace a product more desirable than itself. The cost of any product must be found in whichever of these two lines the resistance were the greater.

That form of sacrifice which is expressed in the term opportunity cost is, then, an aspect of cost especially important in both the isolated and the collectivist economy. And the doctrine extends more widely than merely to the applications of productive labor. It applies also for all instruments of production. Shall, for example, certain lands of the community be used as orchard lands? What then is the cost of production of the fruit obtained from them? This is to ask what are the counter-attractions in the employment

of the land; what does the having of the fruit mean in terms of going without something else. The land being fertile is going to be used for something. The problem of choice lies in the decision between two alternative products—fruit versus its strongest competitor. The cost of either product is, then, the displacement of the other, a problem of sacrifice, a foregoing; this is a typical case of opportunity cost. This sort of cost is, indeed, the leading cost category for the isolated or collectivist analysis.

If, therefore, there be among the collectivist estates land adapted solely to one line of production, mineral lands, for example, or salt marsh, or cranberry swamps, there may be no alternative land-productivity to be computed as resistance. Productivity of the land there is, possibly in a marked degree, but all the costs in the case are to be sought in the labor or in the machinery or in the raw materials applied. So, when once the machinery is in existence, the cost analysis points not to the labor applied in producing it but to its best alternative use. And even in the forward-looking view, when the making of the machinery is under consideration, the same analysis probably holds; for, presumably, the advantages from its use even in its second possible employment are great enough to outweigh the cost of its construction. And in turn the original cost of construction may lie, in the larger part, or entirely, in the displacement, not of consumption goods, but of other possible equipment goods.

And with labor, also, the collectivist cost is commonly in the alternative product of the labor rather than in the labor burden itself. Especially is this likely to be true of the more skilled varieties of labor; up to the point at least where the day's-end margin of weariness applies. And even here the cost is commonly in large measure the displacement of the positive advantages of recreation rather than solely the pain significance of further effort. Thus opportunity cost, broadly interpreted, applies in greater or less degree to all cases where alternatives of product or of other advantage are open. The line of least resistance in economic productivity is almost inevitably, in some part or entirely, the line of the strongest pull.

Thus the principle of selection in the working out of the division of labor in a collectivist society is the principle of the line of least sacrifice; the same principle, in fact, that presides over the direction of purchasing power in the market, by the individual's choice of what shall be bought.

Competitive Cost: To assert that with most goods the supply is limited by cost-of-production influences is merely another way of saying that we have rarely to do with goods present in fixed and inelastic stocks. Likewise it is a way of asserting that such goods as are forthcoming present themselves with reservation, or refusal, prices attached. And if these be not attached to the product when it is once produced, they are attached as a condition to the continued forthcoming of the product. Costs of production are, therefore, as between producers and consumers, the analogue of reservation prices as between sellers and buyers. And this in turn means that cost of production as bearing upon market prices points really to cost of reproduction, to that necessary price indemnity for any item or volume of products below which that production will not be maintained. An analysis of the fixation of the market price, as subjected to cost-of-production influences, both parallels and complements, therefore, the traditional price analysis: it is there clear that market price is neither an average of price offers nor of supply prices nor of both together, but is commensurate with both the marginal price offer and the marginal reservation price.

How then does the producer for the market compute his costs? And of what elements are his costs made up? And what facts render a producer marginal? Or render any part of his product a marginal product? The main factors in the computation of costs and the terminology appropriate to the cost analysis may be presented in some simple illustrative problems.

Why not study Hebrew? Evidently not that it would be entirely useless, but that something else would be better worth while. What do you intend to do for a living? Why not something else? Nothing else offers equal inducements, all things considered. The displacement in the chosen occupation is less than its product. And why do not you raise rye exclusively instead of so much wheat? The rye would displace a greater value in wheat than would be rendered in rye. Why not raise silk in the United States or bananas in Canada? True, either thing could be done were there nothing else to do, but other things pay better. The cost computation especially concerns itself with these other things.

Again: A farmer owns a farm worth $1,000, machinery and stock worth $1,000, hires a man at $300 for the season, himself works and gets $1,000 for his crop. What is the cost? What his profit? Allow, say, $200 for rent of land and machinery and

stock (or interest upon $2,000 of capital together with the deterioration and upkeep), and $300 for wage outlays. The farmer's remuneration for his own productive effort is the remaining $500, his profit. But the data are insufficient for determining the cost. We do not know for how much in the problem the farmer's own labor should count as cost.

A carpenter takes the contract for the carpenter work on a building for $1,400, works six months himself, and pays his men $800. It costs him $300 to live during the six months. He might have worked by the day, receiving $400 in wages. What is his cost? What are his profits? The living expenses are irrelevant either to cost or to profit. Some men live out of their profits as others out of wages or rents or interest—unless, indeed, the living expenses outrun the income. It is in the last case true merely that the wages, or the profits, fail to cover the living expenses. Profits are none the less profits because they are spent or over-spent. One may not deny that he gathered berries merely because he ate them, or that he received a wage merely because he spent it. Wages and profits are merely different ways in which human gainful activity gets rewarded. But *wages imply an employer* to pay them. *Profits are the reward of self-employed labor.* Paying out $800 of wages leaves the contractor $600 for his own labor, supervisory or other. $600 then is his profit. But what was his cost? It was $800 of outlay plus $400 of displaced earnings. His profits, that is to say, are $200 more than his *necessary profits.* Profits are not the excess above cost; they divide into *necessary profit*—that which is part of cost, and *unnecessary profit*—that which is a differential above cost. Had the contract price for the work been $1,100 instead of $1,400, the profit would have been $300, falling $100 below the cost requirement, $100 short of minimum profits. It is thus possible to have absolute profit and relative loss; possible, that is to say, to have a profit less than the necessary profit. *Cost* takes account of this relative aspect of the enterprise. It *is the necessary indemnity.* And now we are ready for the niceties of the complete and accurate analysis.

Each producer, estimating as best he may the prices which various products will bring, has before him the problem of selecting a particular line of production, or the problem whether to remain in his existing line, and the further problem, also, of how to produce most cheaply the product which he elects. Suppose, for example, that he undertakes the production of wheat; he will

need seed, fertilizers, labor, and different sorts of production goods, land, machines, tools. He will have taxes to pay, and insurance—excepting so far as he may carry his own risks—and various minor outlays. He may have to borrow from the bank or from the money lender; in any case he will have to reckon a rate of compensation upon the various portions of his investment for such periods as his enterprise shuts him out of an alternative investment. He may, also, have to include some indemnity for risks that his insurance policies do not cover. And, finally, he must compute as a further cost that compensation for his own time and effort below which he cannot afford to remain in this line of production.

Land rents and implement rents, time-discounts (interest), wages, and such necessary profit as serves merely to indemnify the entrepreneur for entering or continuing the enterprise, are then commonly regarded as the main and typical components of the total entrepreneur cost of production.

Obviously, however, the rents on his own equipment must be computed as cost; since he could have lent them out for hire, or selling them, have lent out the price. Thus we include in cost a rental (together with upkeep charges) upon the equipment goods of the entrepreneur.[2] Or this same amount may be arrived at through computing an interest charge, a percentage upon the total amount of equipment reduced to a money denominator and regarded as a sum of capital. And another interest charge must also be computed—a something which has not its alternative statement in terms of rent. Whatever outlays the entrepreneur has made have had each its date, early or late, with reference to the time of marketing the product: An interest cost is, therefore, to be computed on these. Likewise the rentals which, by virtue of his undertaking, he has foregone must receive each its hypothetical date of maturity and its separate allowance of interest from that date to the date of marketing the product. The leading cost

[2] In accurate analysis a particular item of production goods may furnish the basis of a cost larger than the mere rental, precisely because of some alternative use to which it is applicable at a productiveness exceeding the rent required of the entrepreneur. If, for example, a renter at $100 is conscious that he could, in another line of production, make a piece of land count him for $102 of return, the while that it is actually paying $103 in wheat, he must compute, against its actual productivity of $103, a cost, not of $100, the rent outlay, but of $102, the foregone opportunity. But this requires of the entrepreneur an accuracy of imputation not ordinarily quite attainable. This two dollars of excess over $100 will more probably make itself manifest as a part of his alternative net profit and will function as cost in this last aspect.

categories are, therefore, materials, wages, necessary profits, instrument hires and time discounts. Each manifests itself as a capital outlay with, commonly, an interest charge to cover a forfeited capital use. The older division into wages, profits, rent and interest seriously confuses the analysis.

Thus the cost account against a $3,000 normal crop of wheat marketed on Jan. 1, 1911, from a tract of land of 200 acres would look something as follows:

1.	Rent on 200 acres of land at $3.00 per acre (or interest upon a $10,000 investment in land at 6% annually)	$600 00
2.	Interest on $600 from, say Oct. 1, 1910, to Jan. 1, 1911, (it being assumed that the rent would have been due at this date if the land had been rented)	9 00
3.	Rent on machinery and stock (or interest on $2000, total value of same, from April 1, 1910), 8 mos.	90 00
4.	Wages for month of April paid to men May 1	100 00
5.	Interest on same, 8 months	4 00
6.	Seed and fertilizer as of May 1	500 00
7.	Interest on same, 7 months	20 00
8.	June, July, and August, etc., wages	300 00
9.	Interest on same, total	7 50
10.	Hail insurance for three months, paid May 1	50 00
11.	Interest on same, 8 months	2 00
12.	Taxes on land, paid Nov. 1	100 00
13.	Interest on same, two months	1 00
14.	Repairs and depreciation on machinery and horses as of Jan. 1, 1911	100 00
15.	Depreciation of land as of Jan. 1, 1911	100 00
16.	Outlay for hired teams, averaged, as of June 1,	100 00
17.	Interest on same for 7 months	3 50
18.	Rents on hired machinery, etc., paid Sept. 1,	100 00
19.	Interest on same, 4 months	1 50
20.	Threshing bill, Sept. 15	100 00
21.	Interest on same, 3½ months	1 75
22.	Risk by drought, etc., other than hail	200 00
23.	Value of entrepreneur's own time and supervision as of Jan. 1, 1911 (based upon alternative personal earnings purely, perhaps as wage earner, or in no matter what best alternative)	650 00
	Total	$3140 25

That is to say, the crop which this farmer has marketed at $3,000, and upon which he has actually paid out

$500 of wages during the summer
50 of insurance in May
100 for taxes, Nov. 1
100 for rented appliances in August
100 for threshing in September

—a total of $850—has really cost him $3,140.25, $140.50 more than he sold it for. Looking back upon the question in the light of his present knowledge, he would better have done something else. Looking forward—if this experience seems to point to a similar course of experience in the future with wheat, and to point also to similarly attractive alternate openings—he will decide that he would better either abandon or modify the production of wheat. Perhaps his costs on only some part of his total output were too high. Or it may be, although probably not in wheat farming, that his costs per bushel were too large because his business was too small. Assuming that his methods were the best methods open to him in wheat production, he will usually restrict more or less radically his output.

Note now that even when the computation of costs appears to be a backward-looking computation, this is only as a basis for a further and forward-looking computation. Costs that have been have no direct bearing upon present price. The supply is as it is no matter what are now seen to be the costs. The cost of production that is really and ultimately significant is the prospective cost as over against the prospective price. And in most occupations the computation is for a fairly long term—a season, or a succession of years, or even a lifetime. The bearing of cost, such as it is, and however tardy of working in its bearing on the volume of supply, is significant only for such persons as undertake the cost, and for the supply which it affects, and for the period upon which it bears. Prices are influenced by it by virtue of the fact that there are always enough marginal men in any competitive production to modify the supply if the relative advantages of the industry appear likely to change. And there are always men in other industries near to their margins there, who will be attracted to any particular industry if its relative advantages appreciably increase.

Some danger there is, however, that this principle of opportunity costs may be in some cases overemphasized. A cost com-

putation that is adequate and exhaustive must reduce to the price-denominator all of the different resistances having bearing in the case. If the line of production or the particular item of product under consideration involves an especial degree of hardship, or danger, or ill repute, the necessary indemnity is often appreciably greater. Pain costs and disrepute costs and danger costs *may* require to be included as price influences going to make up the total of price resistance. The saloon business, for example, and the business of safe-cracking probably bring returns out of proportion to the skill and effort invested in them. So some fields of teaching, by their freedom from stress and care and by the interesting quality of the work, may offer remunerations considerably short of proportional to the expenses of preparation and to the ability which they require. These relative advantages, or disadvantages, inasmuch and in so far as they bear upon costs, affect prices in the same way that all other costs affect prices, namely, through the influence exerted upon the volume of supply.

We are now in a position to resolve a famous and long-standing controversy in economic theory: Is price dependent the more upon utility or upon cost; upon demand forces or upon supply forces; upon marginal utility or upon marginal cost; or dependent equally upon both? But to say, with entire justice, that the dependence is equally upon both, that price is the equating point between the two sides of the price equation, leaves it still open to urge, upon the demand side of the argument, that, after all, there could be no motive for production if there were no wants to be satisfied, and that there could be no justification for price-costs if there were no price-demand for the product. It must surely be admitted that human wants are the dynamic fact behind all economic productivity. In the main, then, the primacy is with the demand side, although this is not to deny the importance—the secondary importance—of supply; for if there were no limits upon production, no prices could attach to the product. The market price in this view of it appears to offer a precise analogy to the point of adjustment reached when a coiled spring is pushed: Action and reaction are equal, but the resistance is merely another aspect of the original pressure, a reflex from it. The push is still the primary fact. Where the point of new adjustment is found depends upon the strength of the push.

But on the supply side of the argument it might be asked whether the point is not equally a matter of the strength of the spring.

No one, indeed, can question that the original force in economic production and in market adjustments is the fact of human desire. But this is not to admit that, in the actual determination of price, demand is of more importance than supply. True it is that the useful things external to man are the objects of his desire; they furnish service, afford satisfaction, or protect from discomfort. If sacrifice is a condition to their enjoyment, they command sacrifice. But it still stands as true that things have not prices proportionate to their utilities. Price comes about only when there is resistance to be overcome; when there is a disparity between desires and the means to their satisfaction. Is not value, then, or price, more nearly a measure of the scarcity of things than of their usefulness? Value, or price, appears to emerge in human life only when obstacles and difficulties are found in the path of enjoyment; when satisfactions are saddled with burdens; when needs impose something to be avoided. We are richer in our rainfalls than in our irrigation ditches; and we should be still better off were these rainfalls not so scant. Value arises only when things cost. Human interests present themselves as forwarded by plenty rather than by scarcity—that is to say, as antagonistic to value rather than in harmony with it. Economic progress, therefore, must express itself in successive reductions of the sacrifices necessary to the satisfaction of desire; in the approach of commodities to the margin where value and price disappear; in short in the cheapening of things. A short crop commonly sells for more than an abundant crop. The destruction of the shipload of spices was a creation of value, not of spices. That water or air should become so valuable as to command a price would mean that society had essentially lost rather than gained in weal. Value, therefore, appears to connote sacrifice rather than wellbeing.

But no matter which side of this controversy shall seem to present the more appealing case, the whole issue must be denounced as one untimely joined or even as meaningless. Recalling the fact that, in the analysis of demand and supply, the marginal price-demand was a case of indifference between two competing marginal utilities and that the reservation price of the seller was itself an expression of demand—the point at which with a falling price the thing in hand was equal in desirability with something else obtainable through that price—the case begins to look like an inquiry whether the demands of buyers are more important to price than are the demands of sellers.

But with the introduction of cost-of-production influences, and with cost of production correctly interpreted, the last necessary step in the argument is taken. The cost or refusal price is, in the main, the resisting appeal of competing opportunities. Resolving this refusal price into the compensation offered by other employments, and into the advantages of alternative activities, price is recognized as the equating point between opposing demands. The cost computation of the entrepreneur is merely his way of getting at a decision as to the commodity to the production of which he shall best apply himself. It is a choice as to which demand offers the largest inducement. The margin is such by virtue of the fact that an equality of advantages exists between the two advantageous opportunities.

Pushed back one step farther, the supply of goods of any one kind appears as a flow of items with definite, though changing, reservation limits attached to their forthcoming. These limits are in the main given by the price-demands for other products; that is to say, the various costs of the entrepreneur are mostly to be explained as the wages imposed by other lines of production, the rents obtainable in other fields of enterprise, the interest charge which capital commands because of other enterprises to which it can minister. All along the line, cost for one thing traces back to demand for other things. And even for instruments of production that have only one line of application, the cost to any one entrepreneur is explained by the competing demands of other entrepreneurs. There is, therefore, no issue between demand and cost, simply because cost resolves itself in large part into competing and resisting demands.

Precisely, therefore, as the reservation price—the supply-price of the seller of existing goods—is itself a demand fact, so the refusal prices of producers, their costs, are likewise demand facts. But they are none the less costs. The difficulty with the older view of costs was in its attempt to reduce all costs to labor or to effort; to assume, for example, that value has its basis solely in one sort of sacrifice, labor, and that the displacement of alternative products has no relevancy. Thus, for example, it was believed that the rent of land, land not tracing its existence to labor, could have no place in cost.

We are now prepared to grasp the truth that cost of production, so far from being a phenomenon simple, ultimate, and free from

difficulty, is rather to be regarded as the point at which a bewildering complexity of influences are summed up in one resultant; it is the effect and expression of many contributory causes. To the entrepreneur, truly, the method of computation is simple enough, even though the weight to be given to each of the different elements in the problem may be far from exact. Many of the data upon which he must act are truly rather estimates than precise facts. For example, many of his costs are, at the inception of his undertaking, not determinate. The various markets in which he must hire or buy are fluctuating in their prices. And the price at which he will finally market his product is uncertain. He has to do the best he can. Rain and drought and moth and rust and countless other contingencies—rates of interest, strikes, blockades and financial disturbances, are all in possibility. His alternative lines of activity, also, are subject to like uncertainties. He estimates and surmises and hazards where he can not know, and as a sort of general summary, setting many things over against many others, decides upon his line of largest net advantage.

But, nevertheless, for him the case is relatively simple. He takes wages as he finds them, rents as the market presents them, interest rates as he must pay them, and so on; and gets what profit he can. Nor is it any part of his problem to investigate the causes of the prices attaching to his alternative line of production. All these things are as they are; and as it does not lie with him to change them, but only to adjust himself to them, he would merely waste his energies of entrepreneurship, becoming mere scientist, were he to set himself curiously to searching out the underlying explanations for what he unalterably finds. His view of the facts is a superficial view, adequate only for the particular problem that he has to face. Cost of production, as he sees it, explains the fact that he produces a certain line of commodities and the degree of his production, only on terms of taking for granted all the other facts and influences as the data for his particular problem.

The economist, on the other hand, must recognize that marginal cost of production is important to the price problem only as the meeting point and the adjusting point of a wide and constantly changing variety of influences. There are changes in the desires and needs for the particular commodity, for example, wheat; changes in the desires for the other products competing to attract the purchasing power of all the different purchasers; changes in

the technique of production of all the different competing products; changes in the sources of supply of all the different raw materials, fuel getting cheaper or dearer, mines approaching exhaustion, new deposits discovered, new supplies made accessible by new lines of transportation, and made dearer or cheaper through dearer or cheaper transportation—a great moving equilibrium of diverse change. Marginal cost of production is for each particular class of goods the summing up and the manifestation, as a price-total, of all these different influences focussing upon the particular good in question. The flexibility of cost, its sensitive response to each and all of the changes in the conditions or in the forces involved in the situation, make it, as the focussing point of all of these, the strategic point from which all of these are most effectively studied. But it does not explain, excepting in this purely intermediate and superficial sense that, as looked at from the point of view of the entrepreneur, it explains the degree and the direction of his activity.

Who and What Are Marginal? It is, however, not the less but rather the more important to determine accurately which entrepreneur is the marginal entrepreneur and what fraction of his product is marginal product, and what influences, *as he sees them,* determine this fact of marginality.

Businesses may be, or may not be, marginal as aggregates; that is to say, falling prices for the product, or rising prices for an alternative product, or any other influences affecting the relative desirability of different lines of production may, or may not, decide the marginal entrepreneur to abandon entirely his existing line.

Suppose, for illustration, that at a selling price of $2 per hat an entrepreneur is making a profit of 25 cents per hat; that for every hat now produced he might for the same outlay and trouble produce a pair of shoes salable at $1.90, thus reaping 15 cents of profit per pair of shoes. The cost of hats for him is, then, $1.90 each. When hats fall to this price of $1.90 he will be a marginal producer. 15 cents of his profit in hats out of his total 25 cents of profit is therefore necessary profit. In other words 15 cents of his profit enters into cost of production and 10 cents of it is a surplus above cost of production, or unnecessary profit.

Had his alternative in shoes been not $1.90 but $2, he would have been marginal in the beginning, although it might readily be true that his profit in hats was outrunning that of any competing

manufacturer. Marginality in production, therefore, is not a matter of absolute gain but only of relative gain. It is not always true, or probably even commonly true, that it is the producer at lowest profit who is the marginal producer. Marginality is a question of nearness to equality with the next best thing. The absolute amount of gain is irrelevant. Marginal profit, then, is really relative marginal profit. That business is nearest to the margin that is nearest to abandonment.

But it is probable that only some portions of the product of the entrepreneur are marginal rather than that his entire product as an aggregate is a marginal product. Falling prices are more likely to reduce the output than entirely to cancel it.[8] This holds equally in manufacturing and in agriculture, although the illustrations in agriculture may be the more readily understood. If prices fall in agriculture, the less productive lands tend to be abandoned. These are the lands upon the so-called extensive margin, the poorest or the most distant lands. Such lands are practically rentless by virtue of the fact that they are barely worth cultivating at the ruling prices of products; thus no cultivator can afford an appreciable rent. Similarly there is an intensive marginal cultivation on every piece of land no matter how good. At any level of prices for products, each piece of land is cultivated as far as it pays. Cultivation comes to a stop at the point where increased cost is barely remunerated in the value of the increased product. So falling prices mean the restriction of product on all land under cultivation no matter of what grade; upon lands above the margin not a complete abandonment truly but rather what amounts in substance to a partial abandonment.

In agriculture, however, as elsewhere in all gainful employments, the choice between businesses is not always and necessarily a choice having to do solely with the relative values of the alternative products. The relative painfulness or dangerousness or ill repute or ill smell of the occupation may have to be taken into account in arriving at the price total which must be had to attract the entrepreneur into the business or to hold him there once he is in. So in every business the endurance limit or the recreation limit or the sleep limit may furnish a margin for some items of product.

[8] It occasionally comes about, where laborers are near the margin of subsistence, that falling prices compel a larger production of output. But cases of this sort are rare, especially in America where the margin of actual over necessary income is large.

These influences, which are non-pecuniary and which yet demand pecuniary indemnity, are indeed more often significant as furnishing subsidiary intensive margins—margins, that is to say, affecting certain items of product—than as affecting the relative advantages of different industries and the terms of the choice between them.

But the labor-pain margin and the sundown margin of weariness or of recreation, actual and valid among the non-pecuniary resistances though they are, are yet not the only margins. And obviously this labor margin can have no significance in deciding what uses to make of instruments of production whether land or machinery. Here the margins are displacement margins exclusively.

Nor even at the day's-end margin is cessation from work likely to be solely a question of weariness as against further product. If there is no question of the hired men, their wages and their acquiescence, there are in any event to be considered the comfort and the welfare of the work animals. Nowhere in fact, even at sundown, does the labor-pain doctrine hold as the sole influence in limiting the supply of products relatively to one another, or as limiting the supply of any one product, or as the sole explanation of the wage outlays to be incurred in any particular direction. Labor-pain stands merely as one among the many cost resistances to be overcome by the prospective selling price. Our wheat producing farmer presents at the same time many different supply margins; e. g., a rent-outlay margin, a wage-outlay margin, an indefinite number of seed, fertilizer and implement margins, a corn-displacement margin for some portions of his product, a bean-displacement margin for other portions, capital-wear and land-wear margins for some acres of his crop, and, among all the others, pity margins for his draft cattle, his wife, and his children, a mixed decency-and-expediency margin for his employees, and, finally, a weariness margin for himself. And all these margins may be effective at the same time to set a limit, in different places and directions, to his production, and might conceivably converge in influence to dictate the non-production of any particular line of product, or of any particular item of that particular line. And at different price levels for products, and with different producers, new and different combinations of margins would be presented; different supply volumes have different supply prices.

Here are surely margins enough, but there are more: There is the further problem whether or not to use more land and less machinery or *vice versa*, or more or less labor as against either

or both of the other classes of factors. Evidently the margins are multitude; and all that we can say from the cost point of view is that any of the factors of production may, through a change in the resistance attaching to it, become a margin-causing factor; become, that is to say, an influence deciding the producer to modify or to abandon his line of productive activity.

But despite all this elaboration of the fact that marginality sometimes applies to the business as a whole, sometimes only to certain items of equipment, it must not be inferred that marginality is ultimately a marginality of things rather than of persons. Whether it be all of the product, or only a part of the product that is upon the margin, it is in any case a product made by the entrepreneur for ends and purposes of his own: And no item either of equipment or of product can be marginal otherwise than through his computations and in relation to his situation, his activities and his decisions. And precisely so again of his instruments of production. With falling prices any entrepreneur may transfer part or all of his lands to other products, or may sell off part or all of his capital goods, or reduce his labor investment, or restrict his loan-fund borrowing; or he may, leaving part or all of his investment undisturbed, transfer part or all of his personal activity to his next most attractive alternative; or he may completely abandon the old line of production. In this case of abandonment also, he and his capital may hold together as one productive group or complex, or may scatter into various industries. With falling profits, and possibly with failing pleasure or interest in the business, or at the approach of old age, or of ill health, he may decide to retire from productive activity, reducing his possessions to the form of loan-fund capital. But whatever may be the modifications which result, they will come about through him as a man marginal in some or all of his activities, and no instrument will be marginal excepting in its relation to him. And no one of all his possible margins, and no total of all the different margins of all the different entrepreneurs, will be price-determining or even price-influencing except to the degree that supply undergoes modification and to the extent that supply is an influence in the fixation of price.

As an entrepreneur problem, then, all outlays are elements of cost; and personal preference, repugnances, considerations of climate, neighborhood, home ties, national prejudice, wholesomeness, cleanliness, good repute—all are elements in cost to the extent

that they serve to limit supply—the cost problem with reference to each man, and thereby to any instrument or agent under his control, being simply and solely to determine the point at which supply in different quantities can be had from him, and the degree and the extent of his elasticity in production with changes in price. And it is as one among all the other cost influences, but commonly as the influence of paramount importance, that opportunity cost acquires significance in the value problem. Cost is simply the money expression of the total of resistance to the entrepreneur's production.

It is thus evident that the costs of any individual entrepreneur are not so much fixed by him as for him. And it is evident, also, that these costs to the entrepreneur are distributive shares to the recipients. Again, costs are themselves in large part value-items functioning as resistances. Looked at in the large, both costs and values emerge as aspects of one and the same great process, neither rightly to be regarded as either the cause or the effect of the other. Therefore, if we are able to trace out the process by which rents, wages, profits, etc. are determined—together with the reasons for their determination, we shall at one stroke explain the market prices of products, the costs of entrepreneur production, and the distribution of the joint product among the different coöperating factors. What, then, is the process and the principle according to which prices of consumption goods in the first instance and rents and hires of productive factors in the second instance are fixed?

Fluctuations in the volume of money demand bearing upon *any one* consumption good may occur from many different causes: (1) changes slow or rapid in the supply of purchasing media, or (2) as the more common cause, changes in the prices of other commodities competing for the application of this disposable purchasing power. Lower price-offers may, for example, be made for potatoes, not because of any change in the supply of them or in the hunger for them, but solely by the fact that bread has become cheaper; or, if house rents rise, there may now be the less to pay for either potatoes or for bread. These interrelations are, indeed, many and complicated; dearer timber may make iron dearer or coal dearer and may make building lots cheaper. More plentiful supplies of coarse wool may raise the value of fine wool for mixing, the while lowering the value of cotton. If horses are scarce this

may depress the prices of wagons and raise the prices of automobiles.

Changes in supply come about through influences fundamentally parallel to those effective in changes of demand, only that on the supply side of the case the guiding and the adjusting function of the entrepreneur is especially in evidence. As on the demand side the maximum price-offer was arrived at through a comparison of the advantages in the buying of one thing as against another, so on the supply side the choice of a line of production is ultimately a comparison of the advantages of producing one thing as against doing something else. Nevertheless the analysis of supply is a much more complicated matter than that of demand. Not merely have the relative costs of different products to be computed in selecting one's line of production but comparison must be made of the ratios of these to the selling prices. Thus the relative advantages of a particular occupation as against the most attractive alternative occupation may be affected by a rise or by a fall in the price of the products of either of the occupations under comparison, or by either a rise or fall in the other costs of either industry. Different influences may differently affect all the different items that together furnish the basis of the aggregate costs of either commodity. Lumber costs or fuel costs may, for example, be a rising for one product. This rise in lumber or fuel may be due to the diminishing supply of lumber or of coal: equally well, however, may the cause be found in the pressure of the demand of other industries upon this lumber or upon this fuel. Prices of products in other wood-working industries may be going up or a diminishing supply of other materials may be increasing the stress for wood—and so on in endless possibility. And likewise all this multitude of combinations finds a parallel in the process of working out the relative advantages of labor and of entrepreneur ability in different fields, and thereby the varying significance of wages and profits as costs.

For, let it be once more repeated, all this bewilderment of details and all this complexity of influences reach expression in a form appropriate to bear through supply upon the market price solely through the entrepreneur computation of costs. From the entrepreneur point of view the relative prices of goods depend upon the relative supplies of goods, and these in turn depend upon the relative costs of goods.

Nor is this entrepreneur method of analysis—this cost-of-pro-

duction manner of approach—unfaithful to the facts. The difficulty is that carried no farther than the entrepreneur is concerned to carry it, it hardly more than brushes the surface of the problem. It concerns itself solely with the last item in a long series of causal connections. Its seemingly definitive data are really not much better than interrogation points. In truth, its service is not so much in explaining prices as in indicating the path along which explanation must be sought. The ultimate forces in the problem are, then:

(1) The human desires for products expressing themselves in the aggregate social product of goods to be exchanged against one another, and expressing themselves, also, *in any one price-offer schedule*, as the market demand in terms of money for that particular line of goods;

(2) The productive capacities of human beings and the instrumental equipment at their disposal. Thus the relative strength of human needs, as reflected and expressed in the guise of price-offer and as set over against the relative difficulty of satisfying these needs, functions as the ultimate determinant in the problem. In its concrete working out in the competitive entrepreneur process relative costs of production come to determine relative prices. But as included within these relative costs, reporting the price aggregate of all the different resistances to the production of any particular commodity, full account is taken of the opposing influences of competing demands. In truth only with a full recognition of the opportunity-cost principle does the entrepreneur-cost doctrine come into workable touch with the actual facts of the business. Any attempt to explain price by appeal to the supply term of the value equation is hopeless unless on terms of constant reference to this principle of opportunity-cost. For commodities in general, and especially for any particular commodity, the motive force behind supply is demand. Cost, indeed, consists mostly of resisting demands. Changes in the costs of the particular commodity modify the supply; and changes in supply, resulting often solely from changes in costs, in turn modify prices. Price is a resultant from the forces of demand and supply, but the cost of production which lies behind supply to explain it is itself in large part the resultant from other directions of demand. Looked at from the entrepreneur point of view, demand being taken for granted, the causal sequence in the problem, therefore, runs, on the supply side of the investigation, from the scarcity of the

factor to the scarcity of its product, thence to the price of the product, thence to the rent or hire of the factor.

It follows that not even from the entrepreneur point of view are the forms of compensation attributed to particular factors to be regarded as primarily and fundamentally causal elements in the fixation of market price but rather as distributive shares received by the different coöperating factors out of the apportionment of their jointly produced price product.

It must, therefore, appear odd that economists should ever have been content with cost of production as an explanation either of the price of any one good or of the relative prices of different goods. In truth, however, they have not been generally content so far as concerns the attempt to explain value by *entrepreneur* cost of production. Those cost explanations of market price which have commanded serious advocacy have all of them been attempts to delve beneath the mere entrepreneur payments and to search out the causes determinative of these payments. Does the employer have to pay high wages? Some economists have explained this by the painfulness or danger or other disadvantage attaching directly to the work required. And in those cases where the pay for the work is only relatively high, appeal has been made to the relatively great irksomeness or painfulness. This view of the case really finds the determinate of the expense cost of the employer in the labor-pain cost of his employees. Fundamentally it is an employee-cost doctrine and not an entrepreneur doctrine, or rather it finds in employee cost the cause of employer cost. So, for example, Ricardo found the determinative of relative prices in the relative amounts of labor involved in the process of production. But he was not the less emphatic in his insistence that prices were proportionate to the costs of the employer; this was very clear to him. But these employer costs were in turn proportionate to the employees' labor burden. Thus the relative amounts of labor determining the relative expenses of the employers, and these relative expenses determining in their turn the relative prices, it followed that the labor cost was the ultimate determinant of the market price.

It is not at present worth while to go far in criticism of this doctrine. It simply is not true that the pay received for work is proportional to the pain or to the general unattractiveness of the work. The wage is affected by the supply of laborers offering for the work, and this supply may in turn be seriously influenced by

the unattractiveness of the work. But despite the unattractiveness, the supply of men fit for nothing else is often so great that the wage is a low one, and low out of all proportion to the pains. Other occupations in turn are generously rewarded despite the fact that they are exceptionally pleasant occupations; compare the prima donna with the servant girl. On the whole it is perhaps the nearer true to say that the more attractive occupations get the higher rewards. And the Ricardian view is even more satisfactory as an explanation for the relative hire of different lands and different sorts of other productive equipment. Pain appears indeed to be irrelevant to these particular compensations.

But no matter how bad this labor-pain cost explanation of entrepreneur cost may be, it is still to our purpose as illustrative of the general unwillingness of economists to stop at mere entrepreneur cost as an ultimate explanation of the market adjustment. In truth no capable economist ever did so stop. Nor can we. The circuity in the argument is obvious; entrepreneur cost explains the price of the results by appealing to the prices of the productive factors. It traces the value of the product to the value of the costs: and forthwith it is prone to explain the value of the productive factors by the value of their joint product.[4] Nor in ultimate analysis is the case made better by an appeal to opportunity costs. The inclusion of these latter does no more than to make the entrepreneur-cost doctrine a complete and truthful account of cost for whatever cost is good for. But these displaced alternatives are themselves value items. They are costs truly; but as explanations of value they have this same vice of circuity. In this respect they are better only in this, that commonly they cannot be said to draw their value as costs from the value of that very product in the production of which they function as costs, but only from their possible application to some other product.

[4] "The price of pig
Is something big;
Because its corn, you'll understand,
Is high-priced, too;
Because it grew
Upon the high-priced farming land.
If you'd know why
That land is high,
Consider this: its price is big
Because it pays
Thereon to raise
The costly corn, and high-priced pig!"

But like other entrepreneur-cost categories, they attempt to explain particular prices by other prices.

But that this entrepreneur computation of costs is plainly superficial is no denial of its actuality or of its supreme importance as an intermediate step in the great value problem. The very fact that all the underlying and determining influences focus in the cost computation is alone sufficient to establish this. We live in a society organized under competitive entrepreneur production. Modifications in the relative supplies of goods come about through the working out by the entrepreneurs of their individual cost computations. The whole process is captained by them. All of its forces and determinants manifest their influence and obtain their expression in terms of the cost computation of the entrepreneur. Are rents for certain lands high? The entrepreneur has found it worth his while to bid thus high for these lands. The ultimate explanation for this is not with the entrepreneur but with the supply of land and of other factors of production as over against the desire for land products and for other products. But the point of view from which to attack this problem of causes is the entrepreneur point of view, precisely because here is the problem presented in terms of the results which the ultimate causes have worked and of the conditions which these ultimate causes have established. We study the causes of price from the entrepreneur point of view simply because it is through the entrepreneur process that the ultimate causes are forced to obtain expression in a competitive society. Science is doubtless more than a mere description—generalized so as to be manageable—of the way in which things happen. But thus much at least it must be. In addition there is need that its generalizations run in terms of the causal sequences involved. By the test of either requirement we must study an entrepreneur economics in terms of the entrepreneur process.

In no field of economic activity, indeed, and therefore in no field of economic analysis, are we ever far removed from this entrepreneur process of the adjustment of things. It is, as we have seen, through the entrepreneur computation of costs that supplies are flexible in the market and therefore come to be adjusted against the demand. It is in fact the entrepreneur who furnishes the demand for all intermediate goods, the raw materials and the instruments of production, the things which are called production goods as distinguished from consumption goods. The entre-

preneurs are the bidders for the labor and the payers of the wages. It is by the competition of the entrepreneurs of one industry with those of another, and of the entrepreneurs of each industry with the other entrepreneurs of that same industry, that wages in general and wages in particular find a level. So the rates of interest on capital funds and the rents of lands and of other productive equipment are adjusted mostly or entirely through entrepreneur bidding. The various incomes apportioned under entrepreneur bidding to the various production goods rank by that very fact as items of cost in the process of placing goods upon the market. The entrepreneurs pay these various rents and hires because of the prices to be obtained for the products. It is in truth precisely this entrepreneur point of view which gives to the market prices of products this appearance of being the cause of the prices of the productive factors. And it is equally this same entrepreneur point of view which gives to the prices of these productive factors this seeming of cause in relation to the prices of their products.

Thus it is precisely at this point that the necessity presents itself of explaining the price costs without any attempt to deduce these from the prices of their products, and the necessity also of explaining the prices of the products without deducing these from their price costs. It is the particularistic and individualistic nature of the entrepreneur's activities and computations that explains his ambiguous formulation of causation and his perplexing circuities of logic. But somehow, none the less, the problem must be seen in the large and as a whole and yet not inconsistently with the particularistic process. Otherwise the logic must always be Janus-faced. The fundamentals of the problem must be articulated with the process as it actually takes place.

It is in this aspect that the study of the human organism and of the human environment offers its especial service. Man as consumer is the end of the economic process, its purpose and its justification. His wants are, therefore, fundamental in the case. But he is not merely the end; as producer he is also means to the end.

Therefore, over against the human need for goods there is to be set the human being as producer together with his external equipment of auxiliaries (instrumental goods). Taking for the time being his needs for granted, the relative prices of different goods must trace back to the relative scarcity of the economic ability to produce them, or to the relative scarcity of the ap-

propriate equipment, or to both in conjunction. *Thence the causal sequence on the supply side of the problem runs from the relative scarcity of the product to the relatively high price of the product, and thence to the relatively high remuneration of the factor.*

The supply cause of the market price of the product is, therefore, not in the high rewards of the contributing factors but in the scarcity of them, which scarcity explains the scarcity of the product. It is this relative scarcity of the factors that ultimately explains their relative positions as costs. But the hire of any factor gets its immediate explanation, not directly from the scarcity of the product, but, *as an entrepreneur computation,* from the price of that product, which price is in turn due to the scarcity. Each individual entrepreneur, in his private search for private gain, schemes and contrives and adjusts within this large general situation, is mostly determined by it, and finds no ultimate cause for anything, and needs look for none. His motive for hire is to place upon the market a price-product. The limitations upon his individual product are set by the prices imposed upon him for the necessary factors. The whole situation stands as cause of his costs and as set over against the demand prices which customers will consent to pay for his particular product. He stands merely as an intermediary in the case, representing in his hiring or buying of productive factors the demand of the purchasing public, and representing in his cost computations the degrees of scarcity of the productive factors relative to the demand for their products. Thus on neither side is the ultimate causation with him. He is merely an agent directing the process through which an adjustment is reached among all the influences, focussing upon him on the one side all the different desires for goods as they are represented and expressed in price offers; on the other side (1) the aggregate human productive ability for his purpose, (2) the aggregate instrumental equipment. We say that he is merely a result and not a cause. But clearly enough as one item of human productive power he is, in so far, a part of the total cause. Through his choices and his changes of productive activity he reacts upon the great situation that he faces and is, therefore, in some degree a cause to modify it. The value problem and the distributive problems are, therefore, merely different ways of looking at the same problem. The costs themselves are value items. If there is confusion in thinking of any particular fact at the same time as mostly effect but partly cause, let one imagine himself as jump-

ing, the last person, upon a crowded raft and sinking with it. Does he sink the others or do they sink him?

A resumé of the argument thus far will aid in fixing our permanent bearings. The vice of circuity is difficult to avoid in all economic reasoning. We start with the entirely correct assumption that the market price of any one commodity is determined by the demand for it and the supply of it and that this price is the equating point between the demand and the supply. But note that this way of formulating the price problem concerns itself with only one commodity at a time. Prices are tacitly taken for granted as already fixed for all other lines of production. Thereupon certain maximum paying dispositions are deduced on the part of the respective individuals demanding the commodity in question. But why these maxima? Why does a particular individual limit his payment to say $10? It is precisely that to this $10 there already attaches a purchasing power over other things. That a purchaser is marginal at $10 means that at any price above $10 for the article under consideration he would rather buy something else. Our analysis of the forces determinative of the demand side of any one value equation proceeds, therefore, upon the assumption of an existing medium of exchange and of an established general level of prices; assumes, that is to say, an existing system of prices upon goods in general and an established price relation for these goods in terms of money. And were there no money in the case, were trading confined to barter, a decision to pay not more than ten sheep for one horse must be arrived at in view of what the sheep would buy of other things than horses.

Or consider this same difficulty in another aspect. Money comes to be offered for any given commodity, say hats, by virtue of the fact that possessors of other commodities have changed these over into money to be used as purchasing power.

These other commodities are of indefinitely various sorts. The *money* demand for hats sums up, therefore, countless different dispositions to barter different commodities for hats. In each case of the exchange of these other goods into the money with which to buy hats, the desirability of the trade depends upon the amount of money that these other goods can be changed over into. The money demand for hats can, then, only schematically be set apart from the money price of other things.

Similar difficulties present themselves upon the other side, the

supply side, of the market equation. The disposition of a seller to insist upon a certain price expresses merely the fact that at less than this price he would prefer the thing in hand to anything else that the money would buy. Other exchange relations, an established system of prices for other commodities, are really involved in the fixation of the price at which any one commodity will be offered for sale by any individual.

Cost of production likewise, as lying behind the reservation prices of any seller, points commonly and mainly to the price productiveness open to the entrepreneur in other lines of production. The farmer, for example, must have a certain price per bushel for his wheat, else he will produce corn or hay or wool. The cost of producing one value fact must commonly afford an indemnity for not producing an alternative value fact. The supply of any commodity is, therefore, inseparably connected with the prices of all other producible goods, precisely as the paying disposition for any particular line of goods is inseparably connected with the paying dispositions for all alternative goods.

What then can be done? If both the demand concept and the supply concept are valid to explain a particular market price only upon the assumption of an otherwise complete and adjusted price situation; if the usual interpretations of costs are incomplete, superficial, and circular; and if any amended doctrine of costs can be better only in being made exhaustive and actual, but must be equally open to the charges of superficiality and circuity—where shall be found an explanation causally ultimate and logically adequate?

It is still necessary to explain things in terms of the actual process in which they take place. Our explanations must be formulated consistently with the existing entrepreneur on-going of things and at the same time must be formulated in terms of the causes which determine and direct this actual on-going. We are not to rest satisfied with the fact that, for example, the rent is high or low or the wage outlay this or that; we must go farther than the entrepreneur goes in explaining what the entrepreneur does. We must, that is to say, appeal to the human wants which in terms of price-demand are making call upon the productive powers, human or environmental, which the entrepreneur employs for hire. On the costs side of the case, not the rents paid for land, but the lands available for the supply of product, are the explana-

tion of this supply and of its price. So with wage costs. It is the labor supply and not the wages which are fundamental in the situation. In collectivistic production the problem would present essentially the same determinate influences, but the process would be another. In the present price system, the process is the entrepreneur process. It is the entrepreneurs whose gain-making activities furnish the guidance and the direction under which the underlying conditions and causes reach expression. It is the entrepreneurs who distribute the productive agents and instruments into their different channels in response to the pressure of human needs as expressed in competing price demands.

It is through the bidding of competing entrepreneurs that prices are attached to the materials that enter into the productive process and that the various hires accrue to the various productive factors. But the fundamental facts that face the entrepreneurs, the conditions within which they work, the energies that they supervise, the forces that they adjust into a market equilibrium, are these fundamental situation facts,—on the demand side, human needs; on the supply side, productive equipment and productive ability. In the cost computations of the entrepreneurs we are studying the case in the form of the actual process in which the thing takes place. There is nothing possible here in the way of further explanation than fully and accurately to describe the process.

But the process is something larger in its reach than the activity of any individual entrepreneur: It is each entrepreneur in face of all the others, and all together in face of the general situation of needs and equipment and human productive power. Out of this total situation, of which the entrepreneurs make a part and over which at the same time they are the supervisors and directors, there emerges the resultant price adjustment. To the individual entrepreneur not merely these underlying and determinate facts, but the market adjustment flowing from these facts stand as definitive data which he is powerless to change and to which he must make such gainful adjustment for himself as he may. But none the less it is to these entrepreneurs as an aggregate that this market adjustment is due, the underlying situation being taken as assumed. Collectively they are the cause of an adjustment which appears as directive and controlling for each individual entrepreneur in the process. But each of these individuals in turn helps to bring about this aggregate adjustment. Thus the activity of

each appears to be a derivative of that which each in his own small share has contributed to establish. If again this seems to confuse cause with effect, think again of the boy and the raft. The entrepreneur is mainly director and supervisor. But in part he creates the situation which he directs and supervises.

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